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Financial Analysis of Vodafone Group Plc

Finanční analýza skupiny Vodafone Group Plc

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"I hereby declare that I have elaborated the entire thesis including annexes myself."

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Content

1.Introduction

Financial analysis means using financial theory, financial technique or financial tool to analysis the financial condition or situation of a company. It is vital important and necessary for a company to conduct financial analysis on time. Financial analysis not only can help the company know how they perform in the certain period, which part they should improve, but also is an instruction for the investors, help them select the best company to invest.

"*As more specific, Financial analysis is the process of evaluating businesses, projects, budgets and other finance related entities to determine their performance and suitability. Typically, financial analysis is used to analyze whether an entity is stable, solvent, liquid or profitable enough to warrant a monetary investment.*" [1]The key source of information for financial analysis is the financial statements of a business. The financial analyst uses these documents to derive ratios, create trend lines, and conduct comparisons against similar information for comparable firms. Moreover, Financial analysis is one of the key tools needed by the managers of a business to examine how their organization is performing. For this reason, they are constantly querying the financial analyst about the profitability, cash flows, and other financial aspects of their business.

This thesis focuses on using financial analysis method to analyze the financial situation of Vodafone Group Plc, one of the largest mobile communication network companies in the world. The analysis process is divided into 3 parts: Common-size analysis, Financial ratio analysis and DuPont analysis.

The whole thesis divided into 5 parts. Chapter 1 is a basic introduction. Chapter 2 mainly introduce useful financial analysis methods, including common-size analysis, financial ratio analysis and DuPont analysis. Chapter 3 is a introduction of the Vodafone, about the current situation and future expectation. Chapter 4 is the most important one, in which, we will use different financial analysis methods to analysis different aspect of Vodafone's financial status. As for Chapter5, we will make a conclusion based on all the information of the company we collect in the thesis and give specific suggestions.

[1] https://www.investopedia.com/terms/f/financial-analysis.asp

2. Description of Financial Analysis Methodology

As we all know, the biggest and the most important aim of one company is to make profit. Conducting financial analysis is one of the most efficient way to help the company hit the goal, in which the financial data of the company are selected, calculated, evaluated and interpreted.

Financial analysis is a form to formulate the assessment of the company's present and future financial position, more specific, the assessment of the company's operations, expenses management, credit policy, credit worthiness, etc.

The financial data (from balance sheet, P/L statement and cash flow statement, etc.), market data (some securities prices, industry statistics, etc.) and economic data (GDP, producer price index, consumer price index etc.) are what we base on to carry on the financial analysis. Moreover, the financial analysis is divided into 3 parts: common-size analysis, financial ratio analysis and pyramidal decompositions and influence quantification, what we also call it as Dupont analysis.

So, in this chapter, we will describe the financial analysis methodology which includes three parts. The first part is the financial statements which contain balance sheet, income statement and cash flow statement. The second part is the common-size analysis. The last part is the financial ratio analysis. And the relationship between these three parts is that the financial statements provide basic data for common-size analysis and financial ratio analysis.

2.1 Financial statements

"*Financial statements are written records that convey the business activities and the financial performance of a company. Financial statements include the balance sheet, income statement, and cash flow statement. Financial statements are often audited by government agencies, accountants, firms, etc. to ensure accuracy, for tax, financing, or investing purposes.*"[2]

Investors and financial analysts rely on financial data to analyze the performance of a company and make predictions about its future direction of the company's stock price. One of the most important resources of reliable financial data is the annual report, which contains the firm's financial statements.

[2] https://www.investopedia.com/terms/f/financial-statements.asp

2.1.1 Balance sheet

"*A balance sheet is a financial statement that reports a company's assets, liabilities and shareholders' equity at a specific point in time, and provides a basis for computing rates of return and evaluating its capital structure. It is a financial statement that provides a snapshot of what a company owns and owes, as well as the amount invested by shareholders.*"[3]

It is used alongside other important financial statements such as the income statement and statement of cash flows in conducting fundamental analysis or calculating financial ratios.

The basic equation that these parts is as follows.

$$Assets = Liabilities + Equity \quad (2,1)$$

The main parts of the balance sheet are 'assets' and 'equity and liabilities', a detailed classification of these two subcategories is shown in Table 2.1.

Tab.2.1 Structure of balance sheet

Balance Sheet	
Assets	**Equity + Liabilities**
Long-term assets	**Equity**
Tangible assets	Capital contributed by owners (par value)
Intangible assets	Share premium (paid-in capital)
Financial investments	Retained earnings
Other long-term assets	
	Liabilities
Current assets	Notes payable
Cash and cash equivalents	Accounts payable
Accounts receivable	Short-term borrowings
Inventories	Long-term debt
Marketable securities	Accrued expenses
Other current assets	Other liabilities
Total assets	**Total equity and liabilities**

Source: Dluhosova (2014, P51)

[3] Source: Dluhosova (2014, P51)

The part of assets is divided into two parts, long-term and current assets. Long-term assets include **tangible assets**, an asset that has a physical form including both fixed assets, such as machinery, buildings and land; intangible assets, an asset that is not physical in nature. Goodwill, brand recognition and intellectual property, such as patents, trademarks and copyrights. Current assets include **cash and cash equivalents**, the most liquid assets and can include Treasury bills and short-term certificates of deposit; **accounts receivable**, the money that customers owe the company, perhaps including an allowance for doubtful accounts since a certain proportion of customers can be expected not to pay; **inventory**, the goods available for sale, valued at the lower of the cost or market price.

And for the part of equity, Equity is often referred to as shareholder equity and represents the amount of money that will be returned to the company's shareholders if all assets are liquidated and all the company's debts have been settled. Fairness is found on the company's balance sheet, which is one of the most commonly used financial indicators for analysts to assess a company's financial position. Shareholders' equity can also represent the book value of the company.

Last for the part of liability, in general, is an obligation to or something that you owe somebody else. Liabilities are defined as a company's legal financial debts or obligations that arise during business operations. Liabilities are settled over time through the transfer of economic benefits including money, goods, or services. Recorded on the right side of the balance sheet, liabilities include loans, accounts payable, mortgages, deferred revenues, and accrued expenses.

2.1.2 Income statement

"An income statement is one of the three important financial statements used for reporting a company's financial performance over a specific accounting period, with the other two key statements being the balance sheet and the statement of cash flows. Also known as the profit and loss statement or the statement of revenue and expense, the income statement primarily focuses on company's revenues and expenses during a particular period. Based on income statements, management can take decisions like expanding to new geographies, pushing sales, increasing production capacity, increased utilization or outright sale of assets, or shutting down a

department or product line." [4]Competitors may also use them to gain insights about the success parameters of a company and focus areas.

And the basic equation that these parts is as follows.

$$net\ income = revenue - expenses \tag{2.2}$$

The structure of income statement is shown in Table 2.2.

Tab.2.2 Structure of Income statement

Revenues(Sales)
- Costs of goods sold
= **Gross profit**
- Operating expenses
= **Operating income**
- Non-operating income and expenses
=**Earning before tax**
- Income tax
= **Net income**

Source: Dluhosova (2014, P54)

The income statement may have minor variations between different companies, as expenses and income will be dependent on the type of operations or business conducted. However, there are several generic line items that are commonly seen in the income statement.

The most common income statement items include:

Sales Revenue is the company's revenue from sales or services, displayed at the very top of the statement. This value will be gross of the costs associated with creating the goods sold or in providing services. Companies have multiple revenue streams that add to a total revenue line.

Cost of Goods Sold (COGS) is a line-item that aggregates the direct costs associated with selling products to generate revenue. This line item can also be called Cost of Sales if the company is a service business. Direct costs can include labor, parts, materials, and an allocation of other expenses such as depreciation.

[4] Source: Dluhosova (2014, P54)

Gross Profit is calculated by subtracting Cost of Goods Sold (or Cost of Sales) from Sales Revenue.

Operating Income represents what's earned from regular business operations. In other words, it's the profit before any non-operating income, non-operating expenses, interest or taxes are subtracted from revenues. EBIT is a term commonly used in finance and stands for Earnings Before Interest and Tax.

EBT stands for Earnings Before Tax, also known as pre-tax income, and is found by subtracting interest expense from Operating Income. This is the final subtotal before arriving at net income.

Net Income is calculated by deducting income taxes from pre-tax income. This is the amount that flows into retained earnings on the balance sheet, after deductions for any dividends.

2.1.3 Cash flow statement

A statement of cash flows is a financial statement which summarizes cash transactions of a business during a given accounting period and classifies them under three heads, namely, cash flows from operating, investing and financing activities. It shows how cash moved during the period by indicating whether a particular line item is a cash in-flow or a cash out-flow. The term cash as used in the statement of cash flows refers to both cash and cash equivalents. Cash flow statement provides relevant information in assessing a company's liquidity, quality of earnings and solvency.

"The cash flow statement shows the specific cash inflows and outflows that result in the reported cash flows from operating activities. It shows each cash inflow and outflow related to a company's cash receipts and disbursements, adjusting the income statement items to accruals and shows only cash receipts (inflows) and cash payments (cash outflows). The main characteristic of cash flow statement is that it provides information on the specific sources of operating cash receipts and payments."[5]

The basic equation that these parts is as follows.

$$cash\ flow\ activities = operating\ activities + investing\ activities + financing\ activities \quad (2.3)$$

The structure of cash flow statement is shown in Table 2.3

[5] Source: Dluhosova (2014, P57)

Tab 2.3 structure of cash flow statement

Symbol	Item	Amount
EAT	+ Net income	
DEP	+ Depreciation	
Δ Inv	- Net inventories	
Δ Rec	- Net accounts receivables	
Δ Pay	+ Net accounts payable	
CF_{oper}	= Cash flow from operating activities	
Δ INV	- Net investments	
CF_{inv}	= Cash flow from investing activities	
Δ B	+ Net borrowings	
Δ RE	+ Net retained earnings	
DIV	- Dividends	
EA	+ Net sale of stock	
CF_{fin}	= Cash flow from financing activities	
CF_{total}	= Net cash flow = $CF_{oper} + CF_{inv} + CF_{fin}$	

Source: Dluhosova (2014, P57)

As stated above, the statement of cash flows comprises of three sections:

"Cash flows from operating activities, this section includes cash flows from the principal revenue generation activities such as sale and purchase of goods and services. Cash flows from operating activities can be computed using two methods. One is the Direct Method and the other Indirect Method.

Cash flows from investing activities are cash in-flows and out-flows related to activities that are intended to generate income and cash flows in future. This includes cash in-flows and out-flows from sale and purchase of long-term assets.

Cash flows from financing activities are the cash flows related to transactions with stockholders and creditors such as issuance of share capital, purchase of stock, dividend payments."[6]

[6] Source: Dluhosova (2014, P57)

The cash flow statement is the financial statement that presents the cash inflows and outflows of a business during a given period. It is equally as important as the income statement and balance sheet for cash flow analysis

2.2 Common-size analysis

Common-size analysis is the most basic method in the financial analysis, which aims on the analysis of financial statements data and their changes over the time to identify the trends and major differences.

There are two reasons to use common-size analysis: (1) to evaluate information from one period to the next within a company and (2) to evaluate a company relative to its competitors. Common-size analysis answers such questions as "how do our current assets as a percent of total assets compare with last year?" and "how does our net income as a percent of net sales compare with that of our competitors?"

2.2.1 Vertical common-size analysis

"*Vertical analysis is a method of financial statement analysis in which each line item is listed as a percentage of a base figure within the statement. Thus, line items on an income statement can be stated as a percentage of gross sales, while line items on a balance sheet can be stated as a percentage of total assets or liabilities, and vertical analysis of a cash flow statement shows each cash inflow or outflow as a percentage of the total cash inflows.*"[7]

An example of vertical common-size analysis is shown in *Table 2.5*

Table 2.5 Simple example of vertical common-size analysis

Sales	5,000,000	100%
Cost of goods sold	1,000,000	20%
Gross profit	4,000,000	80%
General and Administrative Expenses	2,000,000	40%
Operating Income	2,000,000	40%
Taxes (%25)	500,000	10%
Net income	1,500,000	30%

Source: https://www.investopedia.com/terms/v/vertical_analysis.asp

[7] https://www.investopedia.com/terms/v/vertical_analysis.asp

By showing the various expense line items in the income statement as a percentage of sales, we can see how much proportion each part occupies. It thus becomes easier to compare the profitability of a company with its peers.

2.2.2 Horizontal common-size analysis

Horizontal analysis is used in financial statement analysis to compare historical data, such as ratios, or line items, over a number of accounting periods. Horizontal analysis can either use absolute comparisons or percentage comparisons, where the numbers in each succeeding period are expressed as a percentage of the amount in the baseline year, with the baseline amount being listed as 100%. This is also known as base-year analysis.

The formulas are as follows:

$$\text{absolute change} = a1 - a0 \quad , \tag{2.4}$$

$$\text{relative change} = \frac{a1-a0}{a0} \quad , \tag{2.5}$$

where a_0 is the amount of the item in the base year (usually the benchmark year), a_1 is the amount of the item in the comparison year (usually the following year).

Horizontal analysis typically shows the changes from the base period in dollar and percentage. For example, when someone says that revenues have increased by 10% this past quarter, that person is using horizontal analysis. The percentage change is calculated by first dividing the dollar change between the comparison year and the base year by the item value in the base year, then multiplying the quotient by 100%.

For example, assume an investor wishes to invest in company XYZ. The investor may wish to determine how the company grew over the past year. Assume that in company XYZ's base year, it reported net income of $10 million and retained earnings of $50 million. In the current year, company XYZ reported net income of $20 million and retained earnings of $52 million. Consequently, it has an increase of $10 million in its net income and $2 million in its retained earnings year over year. Therefore, company ABC's net income grew by 100% YOY, while its retained earnings only grew by 4%.

2.3 Financial Ratios

Financial ratios analysis is a quantitative method of gaining insight into a company's liquidity, operational efficiency and profitability by comparing information contained in its financial statements. Ratio analysis is a cornerstone of fundamental analysis. More specific, this analysis method is a comparison of financial data in the form of financial ratios to assets the financial health of the company. And the ratios are calculated from financial data and market data, among which there is a relationship.

Financial ratios are divided into four groups:

1) Profitability ratios are to analyze the company's ability to generate profit from invested capital.

2) Liquidity ratios are to measure company's ability to meets its immediate and short-term obligations.

3) Solvency ratios are to measure company's ability to meets its long-term obligations.

4) Asset management ratios are to measure the efficiency of assets usage.

2.3.1 Profitability Ratios

These ratios are to measure the ability of a company to generate profit from invested capital in the form of the return during a given period (in %). Generally, the higher the profitability ratios, the better competitive position of the company.

There are 4 basic ratios of profitability ratios: operating profit margin (OPM), net profit margin (NPM), return on assets (ROA), return on equity (ROE).

Operating Profit Margin (OPM) is a profitability ratio used to calculate the percentage of profit a company produces from its operations, prior to subtracting taxes and interest charges. It is calculated by dividing the operating profit by total revenue. The operating profit margin is as follows:

$$\text{operating profit margin(OPM)} = \frac{EBIT}{revenues} \quad , \tag{2.6}$$

where EBIT is earning before interest and taxes, which can be calculated by revenues minus expenses.

"*A company's operating margin is a good indicator of how well it is being managed and how risky it is. It shows the proportion of revenues that are available to cover non-operating costs, like paying interest, which is why investors and lenders pay close attention to it. Highly variable operating margins are a prime indicator of business risk. By the same token, looking at a company's past operating margins is a good way to gauge whether a big improvement in earnings is likely to last.*[8]"

Net Profit Margin (NPM) is equal to how much net income or profit is generated as a percentage of revenue. Net profit margin is the ratio of net profits to revenues for a company or business segment. The net profit margin is as follows.

$$\text{net profit margin}(NPM) = \frac{EAT}{revenues} \tag{2.7}$$

"By tracking increases and decreases in its net profit margin a company can assess whether current practices are working and forecast profits based on revenues. Because companies express net profit margin as a percentage rather than a dollar amount, it is possible to compare the profitability of two or more businesses regardless of size."[9]

Return on Assets (ROA) is a typical financial ratio that shows the percentage of profit a company earns in relation to its overall resources. The return on assets is as follows:

$$\text{return on assets(ROA)} = \frac{\textbf{EBIT}}{\textbf{assets}} (\textbf{or} \frac{\textbf{OP}}{\textbf{assets}}) \quad , \tag{2.8}$$

where EBIT is earning before interest and taxes, which can be calculated by revenues minus expenses.

The ROA figure gives investors an idea of how effective the company is in converting the money it invests into net income. The higher the ROA number, the better, because the company is

[8] https://www.investopedia.com/terms/o/operatingmargin.asp
[9] https://www.investopedia.com/terms/o/netprofitmargin.asp

earning more money on less investment.

Return On Equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. Because shareholders' equity is equal to a company's assets minus its debt, ROE could be thought of as the return on net assets. The return on equity is as follows.

$$\text{return on equity(ROE)} = \frac{\text{EAT}}{\text{equity}} . \tag{2.9}$$

Return on equity deemed good or bad will depend on what's normal for a stock's peers. For example, utilities will have a lot of assets and debt on the balance sheet compared to a relatively small amount of net income. A normal ROE in the utility sector could be 10% or less.

2.3.2 Liquidity ratios

These ratios are to measure company's ability to meets its immediate or short-term liabilities and obligations. Generally, they compare company's liquid assets and short-term liabilities an obligation.

There are 3 basic ratios of liquidity ratios: current ratio, quick ratio and cash ratio.

Current ratio is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year. It tells investors and analysts how a company can maximize the current assets on its balance sheet to satisfy its current debt and other payables. The current ratio is as follows:

$$\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}} . \tag{2.10}$$

In theory, the higher the current ratio, the more capable a company is of paying its obligations because it has a larger proportion of short-term asset value relative to the value of its short-term liabilities. However, while a high ratio, say over 3, could indicate the company can cover its current liabilities three times, it may indicate that it's not using its current assets efficiently, is not securing financing very well, or is not managing its working capital.

Quick ratio is an indicator of a company's short-term liquidity position and measures a company's ability to meet its short-term obligations with its most liquid assets. The current ratio is as follows:

$$\text{quick ratio} = \frac{\text{current assets - inventories}}{\text{current liabilities}} (or \frac{cash + reveivable}{\text{current liabilities}}). \quad (2.11)$$

A result of 1 is the normal quick ratio, as it indicates that the company is fully equipped with exactly enough assets to be instantly liquidated to pay off its current liabilities. A company that has a quick ratio of less than 1 may not be able to fully pay off its current liabilities in the short term, while a company having a quick ratio higher than 1 can instantly get rid of its current liabilities.

Cash ratio is another measurement of a company's liquidity and their ability to meet its short-term obligations. The current ratio is as follows.

$$\text{cash ratio} = \frac{\text{cash} + \text{marketable securities}}{\text{current liabilities}}, \quad (2.12)$$

"*if the result is equal to 1, the company has the same amount of current liabilities as it does cash and cash equivalents pay off those debts. If a company's cash ratio is less than 1, there are more current liabilities than cash and cash equivalents. In this situation, there is insufficient cash on hand to pay off short-term debt. If a company's cash ratio is greater than 1, the company has more cash and cash equivalents than current liabilities. In this situation, the company can cover all short-term debt and still have cash remaining.*"[10]

2.3.3 Solvency ratios

These ratios are to measure company's ability to meets its long-term obligations. Sometimes, we also call it as financial leverage ratio.

There are 3 basic ratios of solvency ratios: debt ratio, debt-to-equity ratio and interest coverage.

Debt ratio is a financial ratio that measures the extent of a company's leverage. The debt ratio

[10] https://www.investopedia.com/terms/o/cashratio.asp

is defined as the ratio of total debt to total assets, expressed as a decimal or percentage. It can be interpreted as the proportion of a company's assets that are financed by debt. The debt ratio is as follows:

$$\text{debt ratio} = \frac{\text{total debts(total liabilities)}}{\text{total assets}} . \quad (2.13)$$

The higher the debt ratio, the more leveraged a company is, implying greater financial risk. At the same time, leverage is an important tool that companies use to grow, and many businesses find sustainable uses for debt.

Debt-to-equity ratio is used to evaluate a company's financial leverage. The D/E ratio is an important metric used in corporate finance. It is a measure of the degree to which a company is financing its operations through debt versus who owned funds. More specifically, it reflects the ability of shareholder equity to cover all outstanding debts in the event of a business downturn. The debt-to-equity ratio is as follows:

$$\text{debt - to - equity ratio} = \frac{\text{total debts(total liabilities)}}{\text{total equity}} . \quad (2.14)$$

Given that the debt-to-equity ratio measures a company's debt relative to the value of its net asset, it is most often used to gauge the extent to which a company is taking on debt as a means of leveraging its assets. A high debt/equity ratio is often associated with high risk; it means that a company has been aggressive in financing its growth with debt.

Interest coverage is a debt ratio and profitability ratio used to determine how easily a company can pay interest on its outstanding debt. The interest coverage ratio may be calculated by dividing a company's earnings before interest and taxes (EBIT) during a given period by the company's interest payments due within the same period. The interest coverage ratio is as follows:

$$\text{interest coverage ratio} = \frac{\text{EBIT}}{\text{interest paid}} \left(or \frac{operating\ \text{profit}}{\text{interest profit}}\right) . \quad (2.15)$$

The lower a company's interest coverage ratio is, the more its debt expenses burden the company. When a company's interest coverage ratio is 1.5 or lower, its ability to meet interest

expenses may be questionable.

2.3.4 Assets management (activity) ratios

Assets management ratios measures how well a company use its assets and indicate how much a company invested in a particular asset relative to the revenues that the assets are generating. Also, the assets efficiency utilization has a direct impact on liquidity.

There are 4 basic types of activity ratios: average collection period(ACP), accounts receivable turnover(ART), accounts payable turnover(APT), inventory turnover(IT), and total assets turnover(TAT).

Average Collection Period (ACP), is the average number of days between the dates that credit sales were made, and the dates that the money was received or collected from the customers. The average collection period is also referred to as the days' sales in accounts receivable. The average collection period is calculated as follows.

$$\text{average collection period} = \frac{\text{accounts receivable}}{\text{revenues}} \cdot 360 \qquad (2.16)$$

In general, a lower average collection period is more favorable than a higher average collection period. A low average collection period indicates that the organization is collecting payments faster. However, this may be an indication that its credit terms are too strict, and customers may seek suppliers or service providers with more lenient payment terms.

Accounts receivable turnover (ART), is the number of times per year that a business collects its average accounts receivable. The ratio is intended to evaluate the ability of a company to efficiently issue credit to its customers and collect funds from them in a timely manner. The accounts receivable turnover is calculated as follows.

$$\text{account receivable turnover(ART)} = \frac{\text{revenues}}{\text{accounts receivable}} \qquad (2.17)$$

"A high receivables turnover ratio can indicate that a company's collection of accounts receivable is efficient and that the company has a high proportion of quality customers that pay their debts quickly. A high receivables turnover ratio might also indicate that a company operates

on a cash basis. Relatively, a low receivables turnover ratio might be due to a company having a poor collection process, bad credit policies, or customers that are not financially viable or creditworthy."[11]

Accounts payable turnover(APT), is a short-term liquidity measure used to quantify the rate at which a company pays off its suppliers. Accounts payable turnover shows how many times a company pays off its accounts payable during a period. The accounts payable turnover is calculated as follows:

$$Account\ payable\ turnover\ ratio = \frac{\text{Total purchases}}{\text{average accounts payable}} \quad , \qquad (2.18)$$

the accounts payable turnover ratio shows investors how many times per period a company pays its accounts payable. In other words, the ratio measures the speed at which a company pays its suppliers. Accounts payable is listed on the balance sheet under current liabilities.

Investors can use the accounts payable turnover ratio to determine if a company has enough cash or revenue to meet its short-term obligations. Creditors can use the ratio to measure whether to extend a line of credit to the company.

Inventory turnover (IT), is a ratio showing how many times a company has sold and replaced inventory during a given period. A company can then divide the days in the period by the inventory turnover formula to calculate the days it takes to sell the inventory on hand. Calculating inventory turnover can help businesses make better decisions on pricing, manufacturing, marketing and purchasing new inventory. The inventory turnover is calculated as follows.

$$\text{inventory turnover(IT)} = \frac{\text{costs of goods sold}}{\text{average inventory}} \qquad (2.19)$$

"A high ratio implies either strong sales or insufficient inventory. The former is desirable while the latter could lead to lost business. Sometimes a low inventory turnover rate is a good

[11] https://www.investopedia.com/terms/o/ accountsreceivableturnover.asp

thing, such as when prices are expected to rise (inventory pre-positioned to meet fast-rising demand) or when shortages are anticipated."[12]

Total assets turnover (TAT), is calculated by dividing net sales by average total assets. Revenues, found on the income statement, are used to calculate this ratio returns and refunds must be backed out of total sales to measure the truly measure the firm's assets' ability to generate sales. The total assets turnover is calculated as follows.

$$\text{total assets turnover(TAT)} = \frac{\text{revenues}}{\text{total assets}}. \tag{2.20}$$

The higher the asset turnover ratio, the better the company is performing, since higher ratios imply that the company is generating more revenue per dollar of assets. The asset turnover ratio tends to be higher for companies in certain sectors than in others.

2.3.5 DuPont Analysis

The **DuPont analysis** (also known as the DuPont identity or DuPont model) is a framework for analyzing fundamental performances popularized by the DuPont Corporation. DuPont analysis is a useful technique used to decompose the different drivers of return on equity (ROE). Decomposition of ROE allows investors to focus on the key metrics of financial performance individually to identify strengths and weaknesses.

There are three major financial metrics that drive return on equity (ROE): **operating efficiency**, **asset use efficiency** and **financial leverage**. Operating efficiency is represented by net profit margin or net income divided by total sales or revenue. Asset use efficiency is measured by the asset turnover ratio. Leverage is measured by the equity multiplier, which is equal to assets divided by equity.

The formula to analysis the return on equity is:

[12] https://www.investopedia.com/terms/o/ inventoryturnover.asp

$$ROE = \frac{EAT}{equity} = \frac{EAT}{revenues} \cdot \frac{revenues}{assets} \cdot \frac{assets}{equity}. \quad (2.21)$$

where $(EAT\ /Revenues)$ means net profit margin, $(Revenues\ /Total\ assets)$ means assets turnover, $(Total\ assets\ /Equity)$ means financial leverage

If we want to separate the effect of interest and taxes, we can decompose the profit margin as follows.

$$\frac{EAT}{revenues} = \frac{EAT}{EBT} \cdot \frac{EBT}{EBIT} \cdot \frac{EBIT}{revenues} \quad (2.22)$$

Then we combine the two formulas.

$$ROE = \frac{EAT}{EBT} \cdot \frac{EBT}{EBIT} \cdot \frac{EBIT}{\text{revenues}} \cdot \frac{\text{revenues}}{\text{total } assets} \cdot \frac{total\ assets}{\text{equity}} \quad (2.23)$$

Next, we will introduce influence quantification, which includes method of gradual changes, logarithmic decomposition method and functional decomposition method

Methods of gradual changes works with absolute changes in component ratios, in the case of decomposition with 3 component ratios:

$$\Delta Xa1 = \Delta a1 \cdot a2{,}0 \cdot a3{,}0\ , \quad (2{,}24)$$
$$\Delta Xa2 = a1{,}1 \cdot \Delta a2 \cdot a3{,}0\ , \quad (2{,}25)$$
$$\Delta Xa3 = a1{,}1 \cdot a2{,}1 \cdot \Delta a3\ , \quad (2{,}26)$$

where X is the basic ratio, ΔX is absolute change in the basic ratio, a is component ratio, Δa is absolute change in the component ratio, and ΔXai is absolute change in the basic ratio caused by the change in the first component ratio.

Logarithmic decomposition method is easier to calculate than methods of gradual changes. Because we only need one formula when we calculate regardless of how many component ratios

we have. Impact of i-th component ratio on the change in the basic ratio is calculated as follows:

$$\Delta x_{ai} = \frac{lnI_{ai}}{lnI_x} \cdot \Delta x, \tag{2.27}$$

l_x represents the index of change in basic ratio:

$$l_x = \frac{x_1}{x_0}, \tag{2.28}$$

I_a represents the index of change in component ratio:

$$I_a = \frac{a_{i,1}}{a_{i,0}}. \tag{2.29}$$

where X is the basic ratio, ΔX is the absolute change in the basic ratio, Ix = X1/X0 is the index of change in the basic ratio, $Ia = a_1\ a_0$ is the index of change in component ratio.

Functional decomposition method works with the relative changes in basic and component ratios. The formula is calculated as follows.

$$\Delta x^{relat} = R_x = \frac{x_1 - x_0}{x_0}, \tag{2.30}$$

$$\Delta a_i^{relat} = R_{ai} = \frac{a_1 - a_0}{a_0}. \tag{2.31}$$

Influence of the i-th component ratio on the basic ratio, the formula for calculation follows:

$$\begin{aligned}
\Delta x_{a1} &= \frac{1}{R_x} \cdot R_{a1} \cdot \left(1 + \frac{1}{2} \cdot R_{a2} + \frac{1}{2} R_{a3} + \frac{1}{3} R_{a2} \cdot R_{a3}\right) \cdot \Delta x, \\
\Delta x_{a2} &= \frac{1}{R_X} \cdot R_{a2} \cdot \left(1 + \frac{1}{2} \cdot R_{a1} + \frac{1}{2} R_{a3} + \frac{1}{3} R_{a1} \cdot R_{a3}\right) \cdot \Delta x, \\
\Delta x_{a3} &= \frac{1}{R_x} \cdot R_{a3} \cdot \left(1 + \frac{1}{2} \cdot R_{a1} + \frac{1}{2} R_{a2} + \frac{1}{3} R_{a1} \cdot R_{a2}\right) \cdot \Delta x.
\end{aligned} \tag{2.32}$$

A DuPont analysis is used to evaluate the component parts of a company's return on equity (ROE). This allows an investor to determine what financial activities are contributing the most to the changes in ROE. An investor can use analysis like this to compare the operational efficiency of two similar firms. Managers can use DuPont analysis to identify strengths or weaknesses that should be addressed.

3. Characteristics of Vodafone Group Plc

In this part, there is a specific introduction of Vodafone Group Plc, through basic information such as the history, professional field, competitive situation and the task of development. Secondly, we will conduct a common-size analysis to aim on the analysis of financial statements data and their changes over the time to identify the trends and major differences. After the processes, I believe we will have a clear and intuitive acknowledge of the current situation of this company in the whole aspects.

3.1 Introduction of Vodafone Group Plc

In this part, the basic information of this company in history, professional field, competitive situation and the task of development is shown.

"Vodafone is a multinational mobile phone operator. Currently one of the largest mobile communication network companies in the world, with investments in 27 countries around the world. In another 14 countries, we work with local mobile phone operators to partner with mobile phone networks."[13]

Here is the logo of the Vodafone Group Plc.

Picture 3.1 The logo of the Vodafone Group Plc

Source: https://www.vodafone.cz/

[13] Source: https://www.vodafone.cz/

Vodafone also has the world's most complete enterprise information management system and customer service system, and has a strong advantage in increasing customers, providing services and creating value. Vodafone's global strategy is to cover voice, data, Internet access services and provide customer satisfaction. Vodafone Group has more than 100,000 employees worldwide.

And it is a multinational telecommunications company based in London, UK. As of December 31, 2018, Vodafone has about 639 million users worldwide.

"The name 'Vodafone' is combined of 'Voice', 'Data' and 'Phone', which are the fundamental parts of telecommunications." [14]

3.1.1 The history of Vodafone Group Plc

Vodafone was founded in 1984, (Vodafone Group Co., Ltd.) on June 29, 1999, after the merger of Inc. (Air-Touch Communications), the company was renamed Vodafone Air-Touch. However, after the shareholders' consent, the original name was restored on July 28, 2000, namely Vodafone Group Co., Ltd.

Vodafone's predecessor was a division of the British Lacal Electronics Company that specializes in mobile phones. It was established in 1985 as Vodafone Telecom. This company, which develops high-quality, high-tech products, has grown to become the second largest telecommunications company in the UK after British Telecom in just 14 years. It has conducted telecommunications services in 19 countries and regions.

In 1982, when the company was founded, the company had fewer than 50 employees. At that time, Racal Radio firmly believed that the company's strategy in the UK mobile telecommunications market would be successful, and he developed a successful development strategy.

On February 23, 2018, according to the foreign media report, on the eve of the World Mobile Communications Conference (MWC), Vodafone and Huawei announced that the two companies cooperated in Spain to adopt the non-independent 3GPP 5G new wireless standard and Sub6 GHz band. The world's first 5G call test.

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[14] Source: https://www.vodafone.cz/

Vodafone said the test used a test network and test equipment to perform real-time data calls from 4G to 5G dual connectivity. This connection starts at 4G and then establishes a data connection on the 5G network. Vodafone also said that engineers used the same method to successfully test real-time HD video calls.

In December 2018, the "Top 20 of the 2018 World Brands" compiled by the World Brand Lab was announced, and Vodafone ranked 93rd.

3.1.2 Professional Field

"*Mobile communications,*

The Vodafone's mobile telecommunications management solutions give you centralized visibility and control of your global communications estate, enabling you to simplify the day-to-day management of spend, services and suppliers. The company will work alongside you to choose the right service model for your needs, with a modular approach to the solution as your business requirements adapt and change.

Fixed connectivity

Markets are so dynamic, and businesses are changing quickly too. Provisioning and managing for bandwidth, flexibility and accessibility are trying to keep up. Customer response times need to be on-demand, and employees are trying to work smarter to stay on top.

Vodafone's fixed connectivity portfolio offers an end-to-end approach that delivers network-wide, building-to-building and internet connectivity, wherever and whenever you need it. Vodafone deliver these services in 182 countries around the world, setting you up for success with your digital ambitions.

***IOT (Internet of Things) technology**,*

At Vodafone, the mission is to help you simplify IoT. Vodafone offer a wide range of high-quality, end-to-end solutions to meet your specific requirements.

With Vodafone's expertise at your side, you can rest assured that every element of your project will run smoothly from start to finish. And, of course, you can count on our reliable and

secure global network to deliver the best results.

Cloud and hosting services

Digital change is accelerating, and you must adapt to succeed. In a dynamic world, the cloud provides agility and access to the essential data and apps you need to be decisive and differentiated.

Vodafone deliver the right cloud services to suit your business needs in a safe, smarter and simple manner."[15]

3.2 Competitive Situation

Vodafone, as a company engaging in the communication, such a popular industry, certainly faces many competitors such as Idea, Tata Docomo, Reliance, Aircel, etc. To keep the competitive advantages in the fierce competition, we need to conduct SWOT analysis of Vodafone Group Plc.

"Strengths

1. Vodafone is one of the most popular cellular service providers across the world.

2. Vodafone has over 1,000,000+ employees globally.

3. The company provides landline, mobile telephony, digital TV services etc.

4. Vodafone has a very high brand visibility and strong brand recall.

5. Strong advertising with Zoo-Zoo concepts made Vodafone ads very popular.

6. Tie-up with international sports like Formula One and other popular sporting events.

7. Vodafone engages in over 150 countries and services more than 470 million customers.

8. Diverse services like payment options (m-Pesa), mHealth services, etc. are provided.

9. Highly efficient website ensures easy online payments, recharges, service activations.

10. Provides movies, music etc. through various Vodafone apps.

Weaknesses

1.Being a global brand, the company comes under constant vigilance from global authorities.

[15] https://www.vodafone.cz/

2. Vodafone has to constantly fight for market share with competitors due to price wars.

Opportunities

1.Fast expanding cellular market globally can be tapped by Vodafone.

2.Latest and low-cost technology can help the brand grow.

3.Untapped rural market can be a huge potential for Vodafone.

4. Focus on MNP can help convert competitor customers to their network.

Threats

1. New entrant's low-price offering affects Vodafone's margins.

2. Saturation point in getting new customers would eventually differentiate only on service.

3. Mobile Number Portability to other competitors can reduce subscriber base."[16]

3.3 Task of Development

"*Acting responsibly and with integrity*

Just as important as our commitment to delivering positive social outcomes is our determination to ensure we act responsibly and with integrity wherever we operate: what we do matters but so does how we work. We strive to ensure we always act lawfully, ethically and with integrity wherever we operate, supported by our strong commitment to corporate transparency. Our strong commitment to corporate transparency is evidenced through our programmers which address the areas that are the focus of intense public debate.

Tax and our total economic contribution to public finances

As a major investor, taxpayer, employer and purchaser of local goods and services, Vodafone makes significant contributions to the economies of all the countries in which we operate. In 2016-17, we contributed €14.2 billion in cash to governments around the world.

We recognize and value the benefits for society that arise from fair, effective and predictable tax regimes. We are committed to acting with integrity, honesty and transparency in all matters related to tax and ensure we adhere to the highest standards of corporate governance.

Our commitment to safety

[16] Source: https://www.mbaskool.com/brandguide/telecom-service-providers/502-vodafone.html

We take safety extremely seriously in our operations and aim to promote our approach across our industry by having leading safety standards, and by insisting on high safety practices from our employees and our suppliers and engaging with customers and peers.

Our commitment to safety does not differentiate between our own employees, our contractors or our suppliers' employees and contractors; all of whom benefit from the same focus on preventing harm, both on our worksites and when working or moving between sites. We want everyone working with Vodafone to return home safely every day. Any injury is one too many; any loss of life related to our operations is unacceptable.

Mobiles, masts and health

The safety of our customers, the wider public, our employees and our contractors is an absolute priority for Vodafone. We comply with all applicable laws in every jurisdiction where we operate and closely monitor independent scientific research that is peer-reviewed and of the highest standard. We remain committed to responding openly and transparently to public concerns about mobiles, masts and health."[17]

[17] https://www.vodafone.cz/

4. Financial Analysis of Vodafone Group Plc.

In this part, we will conduct financial analysis to the Vodafone Group Plc. Firstly, we will conduct a common-size analysis thorough the balance sheet and income statement of the company to aim on the analysis of financial statements data and their changes over the time to sum up the trends and identify the major differences. Next, we will conduct financial analysis by specific formulas to calculate financial ratios and using DuPont analysis which both are already mentioned in chapter 2 to analyze and estimate the financial condition of Vodafone Group Plc.

In general, this chapter includes seven parts: common-size analysis, profitability ratios analysis, liquidity ratios analysis, solvency ratios analysis, activity ratios analysis and DuPont analysis

4.1 Common-size analysis of Vodafone Group Plc

In this section, we will start a common-size analysis of Vodafone Group Plc, according to specific data. The simple balance sheet, income statement and cash flow statement of Vodafone Group Plc from 2015 to 2018 are shown in Table 4.1, Table 4.2 and Table 4.3.

Tab.4.1 Simple balance sheet of Vodafone Group Plc from 2015 to 2018 (In Millions of EUR)

	2015	2016	2017	2018
Current assets	27,457	31,938	25,542	24,131
Long-term assets	142,122	137,169	129,142	121,480
Total assets	169,579	169,107	154,684	145,611
Current liabilities	39,979	42,235	42,389	39,024
Long-term liabilities	38,090	43,547	40,095	38,947
Total liabilities	78,069	85,782	82,484	77,971
Shareholders' equity	91,510	83,325	72,200	67,640

Source: https://www.investing.com/equities/vodafone-balance-sheet

As is shown in the Tab.4.1, the total assets of Vodafone Group Plc have reduced in 2015-2018 because of the decrease of the long-term assets year by year and the current assets which appears a trend of decreasing. As we can see, the long-term assets are always higher than the current assets. The tendency of total liabilities is unstable. From 2015 to 2016, the total liabilities increased sharply. While from 2016 to 2018, the total liabilities have decreased year by year and ended less than it in 2015. And the current liabilities are slightly higher than long-term liabilities except 2016. The shareholders' equity, as the only one has stable change, has decreased in this period, and the rate is quite fast.

Tab.4.2 Simple income statement of Vodafone Group Plc from 2015 to 2018 (In Millions of EUR)

	2015	2016	2017	2018
Revenues	48,385	49,810	47,631	46,571
Cost of goods sold	35,073	36,713	34,576	32,771
Gross profit	13,312	13,097	13,055	13,800
Operating expenses	46,312	48,490	43,906	42,272
EBIT	2,073	1,320	3,725	4,299
Interest	305	915	885	400
EBT	1,734	-190	2,792	3,878
Taxation (Provision)	-6,071	4,937	4,764	-879
EAT	7,805	-5,127	-1,972	4,757

Source: https://www.investing.com/equities/vodafone-income-statement

In the Table 4.2, we can see that the revenues of Vodafone Group Plc are stable above the 45,000 million of EUR in the period but there is a tendency of decreasing. The cost of goods sold is decreasing, and the gross profit of the company is decreasing year by year. The EBIT appears a tendency of rising in the period, which is caused by the decreasing of the operating expenses. The change of the EAT is more unstable than other data, because the provision of the taxation changes

frequently in the period.

Tab.4.3 Simple cash flow statement of Vodafone Group Plc in 2015 - 2018 (In Millions of EUR)

Period Ending:	2018 31/03	2017 31/03	2016 31/03	2015 31/03
Period Length:	12 Months	12 Months	12 Months	12 Months
Cash From Operating Activities	13600	14223	14336	12668
Depreciation/Depletion	10409	11086	11697	11108
Amortization	-	-	-	-
Deferred Taxes	-	-	-	-
Non-Cash Items	2379	10025	9064	-3823
Cash Receipts	-	-	-	-
Cash Payments	-	-	-	-
Cash Taxes Paid	1228	761	807	533
Cash Interest Paid	991	1264	1324	1556
Changes in Working Capital	-1976	-809	-1303	-2094
Cash From Investing Activities	-9841	-8423	-13871	-13234
Capital Expenditures	-8163	-8861	-13883	-10137
Other Investing Cash Flow Items, Total	-1678	438	12	-3097
Cash From Financing Activities	-7234	-9096	4082	-3162
Financing Cash Flow Items	-616	-4829	-597	-2997
Total Cash Dividends Paid	-3920	-3714	-4188	-3758
Issuance (Retirement) of Stock, Net	-1746	25	25	31
Issuance (Retirement) of Debt, Net	-952	-578	8842	3562
Foreign Exchange Effects	-433	-313	-1128	975
Net Change in Cash	-3908	-3609	3419	-2753

Source: https://www.investing.com/equities/vodafone-cash-flow

In the Table 4.3, we can see the net income of the company is changeable in the period, in the 2015 and 2018, the company made profit, while it suffered deficit in the 2016 and 2017. As for detailed information, the part ‘cash from operating activities’ keeps a high level of being higher than 10,000 million from year to year, however, the part ‘cash from investing activities’ seems

better years by years. The part 'cash from financing activities is unstable in the period, which increased in 2016, but soon decreased in 2017, then increased a little in 2018.

4.1.1 Vertical common-size analysis of Vodafone Group Plc

In this part, we analyze the financial situation of Vodafone Group Plc by the way of vertical common-size analysis. When using this method, some steps must be taken: Firstly, we select specific data of the balance sheet such as total assets, total liabilities and equity and total expenses, and so on. Next, we calculate how many percentages does every item in those part occupy. Finally, we start to compare each item to each other then make the conclusion of each part.

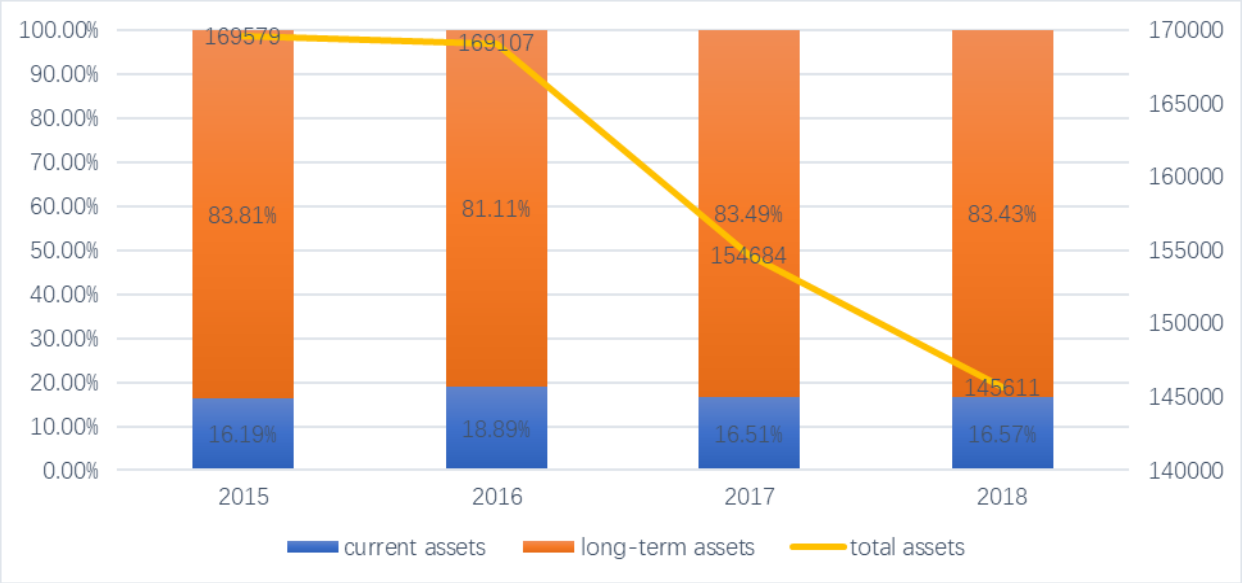
The data and the proportion of each item in total assets from 2015-2018 are shown in Table 4.4 and Chart 4.1.

Tab.4.4 The data and proportion of each item in total assets from 2015 to 2018

	2015	2016	2017	2018
Long-term assets	83.8%	81.1%	83.5%	83.4%
Current assets	16.2%	18.9%	16.5%	16.6%
Cash	0%	1.29%	1.20%	1.51%
Cash equivalents	5.61%	4.32%	4.51%	1.70%
Short-term Investments	3.14%	5.18%	3.96%	6.04%
Total Receivables	7.04%	6.28%	5.30%	6.01%
Total Inventory	0.39%	0.42%	0.37%	0.40%
Prepaid Expenses	0%	0.78%	0.77%	0.79%
Other Current Assets	0%	0.61%	0.39%	0.12%
Total assets	100%	100%	100%	100%

Source: Own calculation based on company's balance sheet

Chart.4.1 Vertical common-size analysis of assets from 2015 to 2018.



Source: See Table 4.4

Firstly, we can see the Chart 4.1, which shows the proportion of current assets and long-term assets in the total assets from 2015-2018. The long-term assets occupy stably above 80% of the total assets and the current assets occupies just around 17% of the total assets. So, the capital structure didn't change too much, it kept almost in the same level. However, it is obviously that proportion of the long-term assets are quite higher than the proportion of the current assets. Long-term assets and current assets are two main kinds of assets of total assets. Current assets are assets used in the short-term. Current assets on the balance sheet contain all the assets that are likely to be converted into cash within one year. Companies rely on its current assets to fund ongoing operations and pay current expenses. Current assets include cash, inventory, and accounts receivables. Long-term assets are company's long-term investments or assets that have a useful life of more than one year and usually last for several years. Long-term assets are considered illiquid, meaning they can't be easily liquidated into cash. Thus, current assets are important to businesses because they can be used to fund day-to-day business operations and to pay for ongoing operating expenses, and it also represents a company's liquid assets. So, in our opinion, the 17% is not a reasonable data for a mature company like Vodafone Group Plc. Overall, the general assets situation of the Vodafone Group Plc is stable, but it will be better if the proportion of the current assets can rise in the future.

Next, we can see the Table 4.4, the data and the proportion of each item in total assets. The cash, cash equivalents and short-term investments combine as a large part 'Cash and Short-Term Investments', this part stably occupies around 9% of the total assets, which means nearly 9% of the total assets are cash or can be converted into cash immediately and it guarantees the liquidity of the company. Total receivables, another large part, stably occupies around 6% of the total assets. Besides, total inventory, also as an important part in total assets, is one of the most important assets of a business because the turnover of inventory represents one of the primary sources of revenue generation and subsequent earnings for the company's shareholders and this part only occupy less than 0.5% every year, which is normal for Vodafone, because Vodafone is a company offering service, it doesn't rely on goods or productions to make profit.

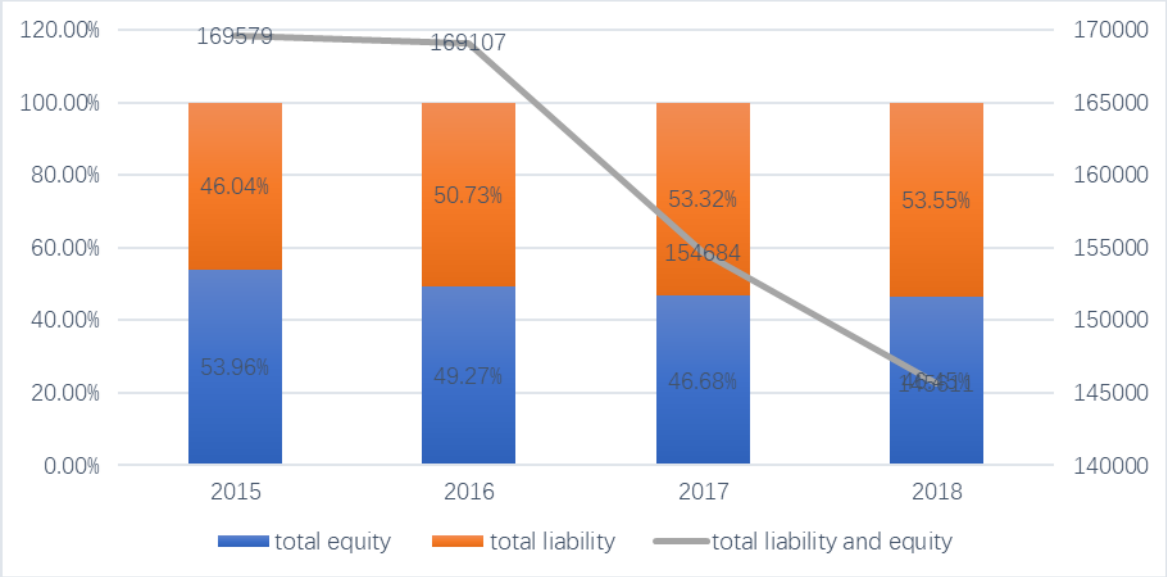
Then we need to analyze the equity and liabilities of the Vodafone Group Plc in the same way. The data and the proportion of each item in total equity and liabilities is shown in Tab 4.5 and Chart 4.2.

Tab 4.5 The data and the proportion of each item in total equity and liabilities

	2015	2016	2017	2018
Current liabilities	23.6%	25.1%	27.4%	26.8%
Long-term liabilities	22.4%	25.6%	25.9%	26.7%
Total liabilities	46%	50.7%	53.3%	53.5%
Total equity	54%	49.3%	46.7%	46.5%
Total equity and liabilities	100%	100%	100%	100%

Source: Own calculation based on company's balance sheet

Chart 4.2 Vertical common-size analysis of total equity and liabilities from 2015 to 2018.



Source: See Table 4.5

Firstly, we can see the Chart 4.2, which shows the proportion of total equity and total liabilities in the total equity and liabilities from 2015-2018. In general, the proportion of each item is quite closely to another. In 2015, the proportion of total liabilities is lower than the proportion of total equity, however, in 2016-2018, the proportion of total equity kept decreasing and the proportion of total liabilities kept increasing, so the total liability is always higher than the total equity in recent years. It also means that Vodafone Group Plc raise funds mainly by liability financing.

Next, we can see the Tab 4.5, the data and the proportion of each item in total equity and liabilities. Comparing current liabilities to long-term liabilities, we can make a conclusion that the proportion of current liability is slightly higher than long-term liabilities. It is not difficult to explain, because the costs of current liabilities are relatively cheaper than long-term liabilities. However, it was not so good for Vodafone Group Plc or other company, because current liability has a shorter maturity compare to the long-term liability, which means overmuch current liabilities will increase the pressure of the company to pay off the debts. Luckily, the company has a good control of the relationship of these two kinds of liabilities. They nearly occupy the same proportion as the other one, so the situation is still very well along as they can keep it in the future.

Then we will conduct vertical common-size analysis in revenues. The proportion of each item

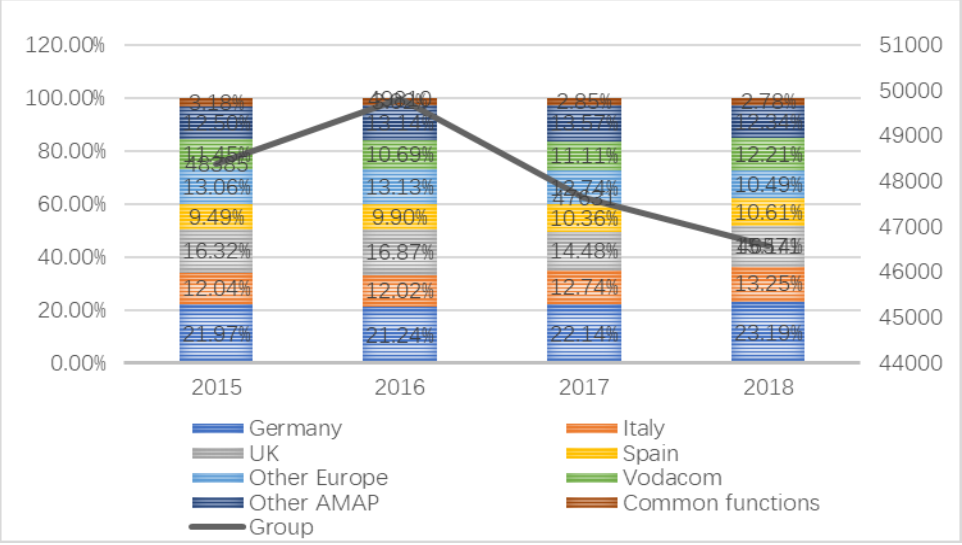
in revenues is shown in Tab 4.6 and Chart 4.3

Tab 4.6 The proportion of each item in revenues from 2015 to 2018 (%).

	2015	2016	2017	2018
Germany	21.97%	21.24%	22.14%	23.19%
Italy	12.04%	12.02%	12.74%	13.25%
UK	16.32%	16.87%	14.48%	15.14%
Spain	9.49%	9.90%	10.36%	10.61%
Other Europe	13.06%	13.13%	12.74%	10.49%
Europe	**72.88%**	**73.15%**	**72.47%**	**72.68%**
Vodacom	11.45%	10.69%	11.11%	12.21%
Other AMAP	12.50%	13.14%	13.57%	12.34%
AMAP	**23.95%**	**23.83%**	**24.69%**	**24.54%**
Common functions	3.18%	3.02%	2.85%	2.78%
Group	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Source: Own calculation based on Annual report

Chart 4.3 The proportion of each item in revenues from 2015 to 2018



Source: Own calculation based on Annual report

Combine Tab 4.6 and Chart 4.3, we can see that the revenue of the company appears a trend

as decreasing. Specifically, most of the revenue come from Europe, which occupied nearly 72% every year, and another part, AMAP, stably 24% per year. So we can conclude that the Europe market can bring more profit to the company.

4.1.2 Horizontal common-size analysis of Vodafone Group Plc

Horizontal analysis is used in financial statement analysis to compare historical data, such as ratios, or line items, over a number of accounting periods. Horizontal analysis can either use absolute comparisons or percentage comparisons, where the numbers in each succeeding period are expressed as a percentage of the amount in the baseline year, with the baseline amount being listed as 100%. This is also known as base-year analysis.

Firstly, we will calculate the absolute change and relative changes of the income statement of Vodafone Group Plc based on the data we have in the Table 4.2. The results are shown in Table 4.7 and Table 4.8 as follows.

Table 4.7 Absolute changes of income statement from 2015 to 2018(in million RMB)

	2015/2016	2016/2017	2017/2018
Revenues	1,425	-2,179	-1,060
Cost of goods sold	1,640	-2,137	-1,805
Gross profit	-215	-42	745
Operating expenses	2,178	-4,584	-1634
EBIT	2,073	2,045	574
Interest	-753	-30	-485
EBT	-1,924	2,982	1,086
Taxation(Provision)	11,008	-173	5,643
EAT	-12,932	3,155	6,729

Source: Results calculated based on income statement

Table 4.8 Relative changes of income statement from 2015 to 2018(in million RMB)

	2015/2016	2016/2017	2017/2018
Revenues	2.95%	-4.37%	-2.23%
Cost of goods sold	4.68%	-5.82%	-5.22%
Gross profit	-1.62%	-0.32%	5.70%
Operating expenses	4.70%	-35%	-3.72%
EBIT	-36.3%	154.9%	15.41%
Interest	200%	-3.28%	-54.8%
EBT	-110.96%	-1569.47%	38.90%
Taxation (Provision)	-181.32%	-3.50%	-118.45%
EAT	-165.69	61.54%	341.23%

Source: Results calculated based on income statement

Combined Table 4.6 and Table 4.8 we can clearly identify the general trend of each items in income statement from 2015-2018. The part 'revenue' appears the trend as increase firstly and then decrease in later, which is influenced mostly by the cost of goods sold, the one appears the same trend as the revenue. Another important part 'Operating expenses', also had a quite hefty loss in 2016-2017.

"*As reported, in 2016-2017 this period, the loss owed partly to a big write-down in the value of its Indian business. The company, which operates in 26 countries, wrote down the value of its Indian unit by 3.7bn euros after a major price war broke out in 2015. Vodafone also admitted it had suffered a disappointing year in the UK. Chief executive Vittorio Colao said a £4.6m fine from Of-com was "the worst moment" for the firm and its customers. The fine was*

imposed due to "serious breaches" of consumer protection rules, which led to customers losing money. The problems were caused by errors linked to the company's move to a new billing system. Mr. Colao said: 'The operational issues are essentially resolved. I don't call it rock bottom. The worst moment was six months ago. Six to nine months ago we were receiving twice the number of complaints. I was personally receiving complaints.' In the past 12 months, Vodafone lost 300,000 UK customers, with 17.9 million remaining, although its broadband business grew to 216,000 households. But Mr. Colao insisted that customer services had undergone major changes. The company has hired 2,100 new workers to help reduce customer service call answering times to 14 seconds, and it revealed complaints have fallen by 1.1 million since November 2015 - a 40% drop. Vodafone also said that it had abandoned plans to sponsor the London Stadium, home to West Ham United. It had been linked with a £20m deal for six years, according to the Times, but this broke down and will not go ahead."[18]

4.2 Financial Ratio Analysis of Vodafone Group Plc

Financial ratio analysis is a quantitative method of gaining insight into a company's liquidity, operational efficiency and profitability by comparing information contained in its financial statements. Ratio analysis is a cornerstone of fundamental analysis. More specific, this analysis method is a comparison of financial data in the form of financial ratios to assets the financial health of the company. And the ratios are calculated from financial data and market data, among which there is a relationship.

In the chapter 2, we focus on introducing four kinds of financial ratios analysis, profitability ratio analysis, liquidity ratio analysis, solvency ratio analysis and activity ratio analysis. Next, we analyze the financial situation of Vodafone Group Plc based on the basic data and these four kinds of financial ratio analysis.

4.2.1 Profitability Ratio Analysis

In this part, there are 4 basic ratios of profitability ratios: operating profit margin (OPM), net

[18] Source: https://www.bbc.com/news/business-39932866 (16/5/2017)

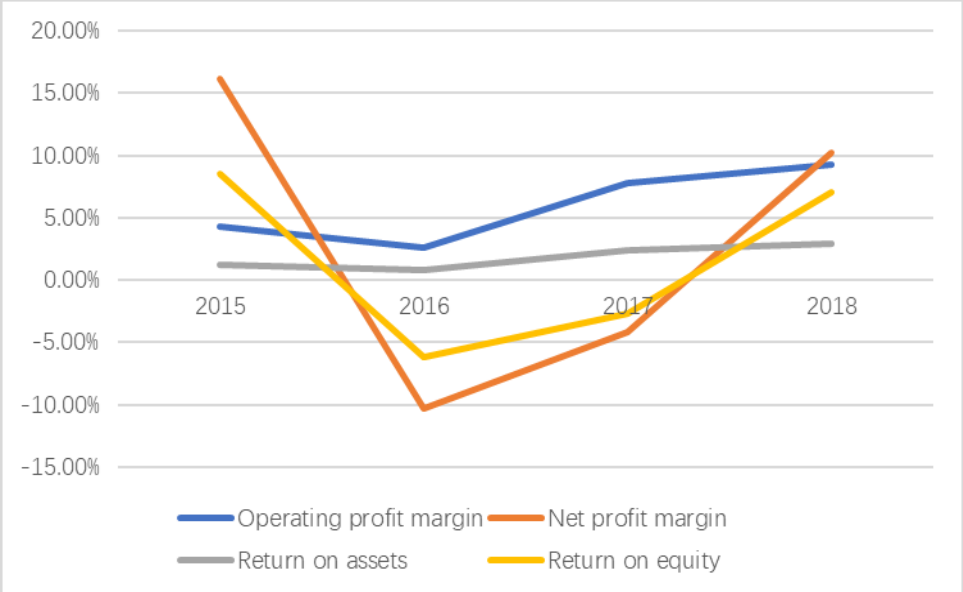
profit margin (NPM), return on assets (ROA), return on equity (ROE). All these ratios are shown in the Table 4.9 and Chart 4.4.

Table 4.9 Profitability ratio of Vodafone Group Plc from 2015-2018

	2015	2016	2017	2018
Operating profit margin	4.28%	2.65%	7.82%	9.23%
Net profit margin	16.1%	-10.3%	4.14%	10.2%
Return on assets	1.22%	0.78%	2.41%	2.95%
Return on equity	8.53%	-6.15%	-2.73%	7.03%

Source: Results calculated based on Annual report

Chart 4.4 Profitability ratio of Vodafone Group Plc from 2015-2018



From the Table 4.8 and Chart 4.3, we can see that the operating profit margin and net profit margin of Vodafone Group Plc appears a same trend from 2015-2018, they all fall in 2016 and rise

in 2017 and 2018. As we have mentioned before, the company suffered loss in India in 2016, so it is reasonable. Operating margin is a good indicator of how well it is being managed and how risky it is, thus, the operating margin is changeable in the recent years, so it is maybe a prime indicator of business risk. Another question about why here net profit margin is higher than operating profit margin in years, that is because the provision tax is added here, is the estimated amount that a business or individual taxpayer expects to pay in income taxes for the current year. As for the return on assets and return on equity, they also have the same trend as operating profit margin, fall in 2016 and rise in 2017 and 2018, that means, they also affect by the loss of the company in India. During the period from 2015 to 2016, Vodafone Group Plc's goodwill was reduced due to accidents, and sales restructuring also reduced work efficiency. This reduced the company's market share, reduced profits per unit of assets, and reduced returns to shareholders.

4.2.2 Liquidity Ratio Analysis

Liquidity ratios are to measure company's ability to meet its immediate or short-term liabilities and obligations. Generally, they compare company's liquid assets and short-term liabilities an obligation.

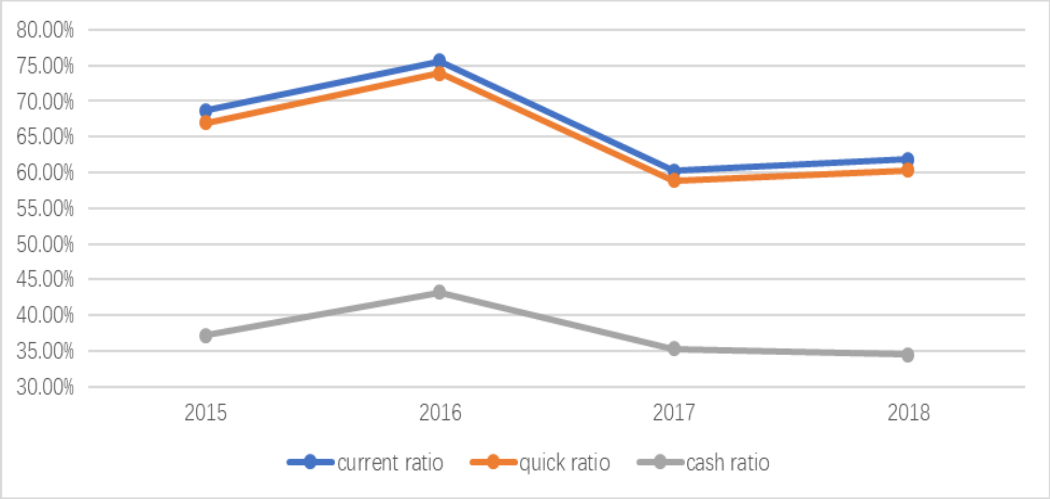
In this part, there are 3 basic liquidity ratios: current ratio, quick ratio and cash ratio. All these ratios are shown in the Table 4.10 and chart 4.5.

Table 4.10 liquidity ratio of Vodafone Group Plc from 2015-2018

	2015	2016	2017	2018
Current Ratio	68.68%	75.62%	60.26%	61.84%
Quick Ratio	67.01%	73.92%	58.90%	60.35%
Cash Ratio	37.15%	43.23%	35.28%	34.51%

Source: Results calculated based on Annual report

Chart 4.5 liquidity ratio of Vodafone Group Plc from 2015-2018



Source: Results calculated based on Annual report

From the Table 4.10 and Chart 4.5, we can see that cash ratio, current ratio and quick ratio of Vodafone Group Plc keep in a stable level that all of them are less than 100% in the period. These three ratios also appear the same trend that rise in 2016 and fall in 2017, then stable in recent. In general, the current ratio should be higher 200%, the quick ratio and the cash ratio should be higher 100%. So, both these three ratios are too low for the company.

For the quick ratio, a low quick ratio might be delivering several messages about a company. It could be telling us that the company's balance sheet is over-leveraged. Generally, if a company's cash ratio is less than 1, there are more current liabilities than cash and cash equivalents. In this situation, there is insufficient cash on hand to pay off short-term debt. But this may not be the bad news for Vodafone because the company has conditions that skew its balance sheet accounts, such as lengthier-than-normal credit terms with its suppliers, efficiently-managed inventory and very little credit extended to its customers. A current ratio of less than one may seem alarming, although different situations can affect the current ratio in a solid company. For example, a normal monthly cycle for the company's collections and payment processes may lead to a high current ratio as payments are received, but a low current ratio as those collections ebb.

Overall, it seems Vodafone doesn't have a good performance in liquidity, the company should attach full importance to solve the problem in liquidity.

4.2.3 Solvency Ratio Analysis

Solvency ratios are to measure company's ability to meet its long-term obligations. Sometimes, we also call it as financial leverage ratio (measure how the company is financed).

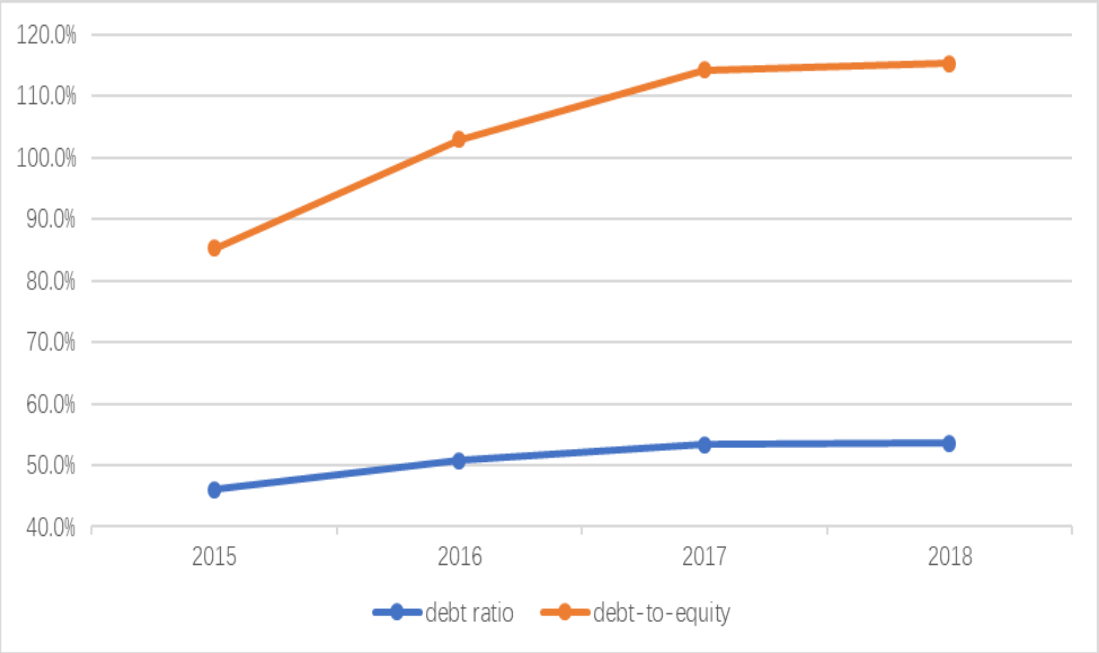
In this part, there are 3 basic solvency ratios: debt ratio, debt-to-equity ratio and interest coverage. Firstly, we analyze the debt ratio and debt-to-equity ratio. Both these two ratios are shown in the Table 4.10 and chart 4.5 as follows.

Table 4.11 Debt Ratio and Debt-to-equity Ratio of Vodafone Group Plc from 2015-2018

	2015	2016	2017	2018
Debt Ratio	46.0%	50.7%	53.3%	53.5%
Debt-to-equity Ratio	85.3%	102.9%	114.2%	115.3%

Source: Results calculated based on Annual report

Chart 4.6 Debt Ratio and Debt-to-equity Ratio of Vodafone Group Plc from 2015-2018



Source: Results calculated based on Annual report

From the Table 4.11 and Chart 4.6, we can see that the debt ratio of Vodafone increased slowly from 2015-2018. The changing section is from 40% to 60%. From a pure risk perspective, lower ratios (0.4 or lower) are considered better debt ratios. "*Since the interest on a debt must be paid regardless of business profitability, too much debt may compromise the entire operation if cash flowdries up. Companies unable to service their own debt may be forced to sell off assets or declare bankruptcy. A higher debt ratio (0.6 or higher) makes it more difficult to borrow money. Lenders often have debt ratio limits and do not extend further credit to firms that are over-leveraged. Of course, there are other factors as well, such as credit worthiness, payment history and professional relationships."*[19] Thus, the level of Vodafone's debt ratio is either good or bad, it still has space to develop.

As for the debt-to-equity ratio, it suffers a huge and stably increase, from 80% to almost 120%. In general, the less the debt-to-equity ratio, the better the company performs, and the ratio should be less than 1. In 2015, the company seems good, but after that the trend of the ratio keeps higher than 1, that means the more debt becomes and the less equity becomes. Generally, a high debt-to-equity ratio indicates that a company may not be able to generate enough cash to satisfy its debt obligations. Moreover, lenders and investors usually prefer low debt-to-equity ratios because their principals are better protected in the event of a business decline. Thus, firms with high debt-to-equity ratios may not be able to attract additional capital. So, the company should make more effort to this subject to improve itself.

Next, we analyze the interest coverage of Vodafone Group Plc, the results are shown in the Table 4.12 and Chart 4.7 as follows.

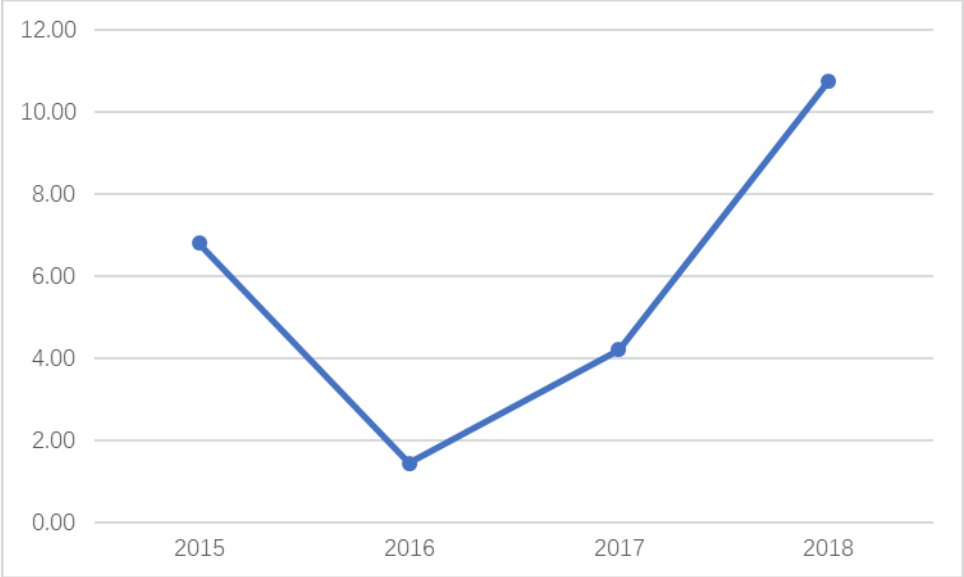
Table 4.12 The Interest Coverage of Vodafone Group Plc from 2015-2018

	2015	2016	2017	2018
Interest Coverage	6.80	1.44	4.21	10.75

Source: Results calculated based on Annual report

[19] Source:https://www.investopedia.com/ask/answers/021215/what-good-debt-ratio-and-what-bad-debt-ratio.asp

Chart 4.7 The Interest Coverage of Vodafone Group Plc from 2015-2018



Source: Results calculated based on Annual report

As we can see in the Table 4.11 and Chart 4.6, the interest coverage ratio of Vodafone Group Plc fell in 2016 but has a huge growth in recent two years. The lowest of the interest coverage ratio in the period is 1.44, the highest one is 10.75. Overall, a higher ratio indicates a better financial health as it means that the company is more capable to meet its interest obligations from operating earnings. Thus, Vodafone has a good performance in this aspect, which may be the good news.

4.2.4 Activity Ratio Analysis

Activity ratios are a category of financial ratios that measure a firm's ability to convert different accounts within its balance sheets into cash or sales. Activity ratios measure the relative efficiency of a firm based on its use of its assets, leverage, or other similar balance sheet items and are important in determining whether a company's management is doing a good enough job of generating revenues and cash from its resources.

There are 3 basic types of activity ratios: average collection period(ACP), accounts receivable turnover(ART), and total assets turnover(TAT). All these three ratios are shown in the Table 4.13, Chart 4.8 and Chart 4.9.

Table 4.13 The activity ratio analysis of Vodafone Group Plc from 2015-2018

	2015	2016	2017	2018
ACP	82.89	56.31	51.48	55.84
ART	4.34	6.39	6.99	6.45
TAT	0.29	0.29	0.31	0.32

Source: Results calculated based on Annual report

Chart 4.8 ACP and ART of Vodafone Group Plc from 2015-2018

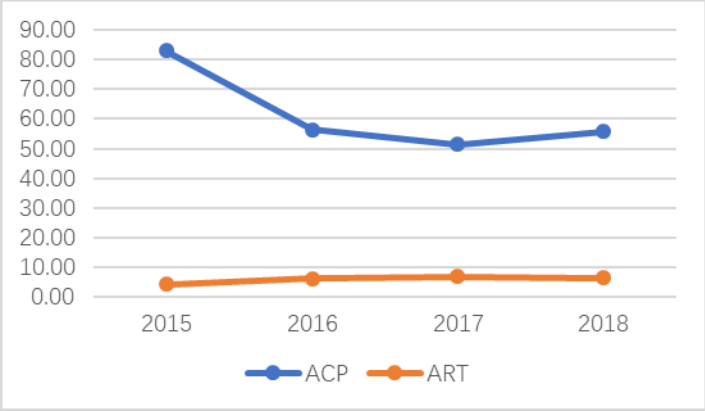
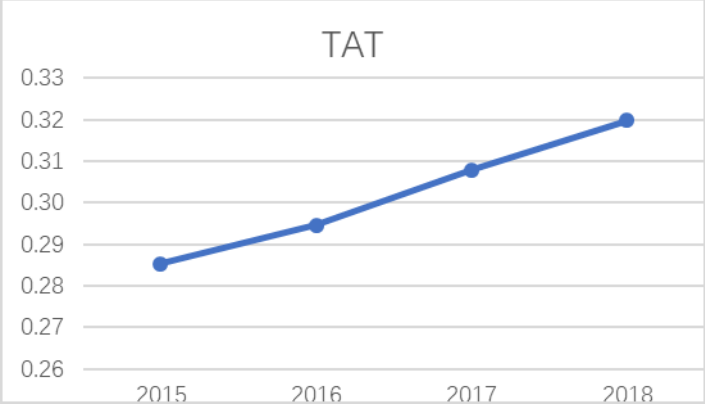


Chart 4.9 TAT of Vodafone Group Plc from 2015-2018



Source: Results calculated based on Annual report

As we can see in the Table 4.13 and Chart 4.8, the ratio ACP and ratio ART both use to quantify a company's effectiveness in collecting its receivables or money owed by clients. The ratios show how well a company uses and manages the credit it extends to customers and how quickly that short-term debt is collected or is paid. The data shows that apart from 2015, ACP of the company keeps stably as about 50, that means it takes about 50 days for the company to convert accounts receivable into cash. Besides, the ART keeps stably as 6 from year to year, which is too low, and might be due to a company having a poor collection process, bad credit policies, or customers that are not financially viable or credit worthy.

As for TAT, another ratio measures the value of a company's sales or revenues relative to the value of its assets. The asset turnover ratio can be used as an indicator of the efficiency with which a company is using its assets to generate revenue. TAT appears the trend as stably around 0.3.

4.3 DuPont Analysis

In this part we analyze the financial status of Vodafone Group Plc by method of DuPont Analysis. According to chapter 2, the center of this method is decomposing. We will decompose our object 'ROE' into 3 parts: operating efficiency, asset use efficiency and financial leverage. Next, we will use the information we know to calculate each item we need and finally we compare them to make the conclusion.

The results of pyramidal decomposition of ROE is shown in Table 4.14.

Table 4.14 The results of pyramidal decomposition of ROE from 2015-2018

	2015	2016	2017	2018
Net profit margin	0.16	-0.10	-0.04	0.10
Assets turnover	0.29	0.29	0.31	0.32
Financial leverage	1.85	2.03	2.14	2.15
ROE	0.09	-0.06	-0.03	0.07

From the Table 4.14, we can see the specific data and absolute change of ROE and each item. The ROE of Vodafone fell in 2016, but in recent two years it has a huge increase. Next, we will use methods of gradual changes to analyze how each item influence ROE, and what leads ROE to such a trend these years

4.3.1 Methods of Gradual Changes

Methods of gradual changes works with absolute changes in component ratios, and in this method, we assume that net profit margin is a1, total assets turnover is a2, and financial leverage is a3. The data calculated by this method is shown in Table 4.15, Table 4.16 and Table 4.17.

Table 4.15 Methods of Gradual Changes

	a2015	a2016	Δa	ΔXai	Order
NPM (a1)	0.16	-0.10	-0.264	-0.140	1
Assets Turnover (a2)	0.29	0.29	0.009	-0.002	3
Financial Leverage (a3)	1.85	2.03	0.176	-0.005	2
Sum				-0.147	

Table 4.16

	a2016	a2017	Δa	ΔXai	Order
NPM (a1)	-0.10	-0.04	0.062	0.037	1
Assets Turnover (a2)	0.29	0.31	0.013	-0.0011	3
Financial Leverage (a3)	2.03	2.14	0.113	-0.0014	2
Sum				0.034	

Table 4.17

	a2017	a2018	Δa	ΔXai	Order
NPM (a1)	-0.04	0.10	0.144	0.095	1
Assets Turnover (a2)	0.31	0.32	0.012	0.003	2
Financial Leverage (a3)	2.14	2.15	0.010	0.0003	3
Sum				0.098	

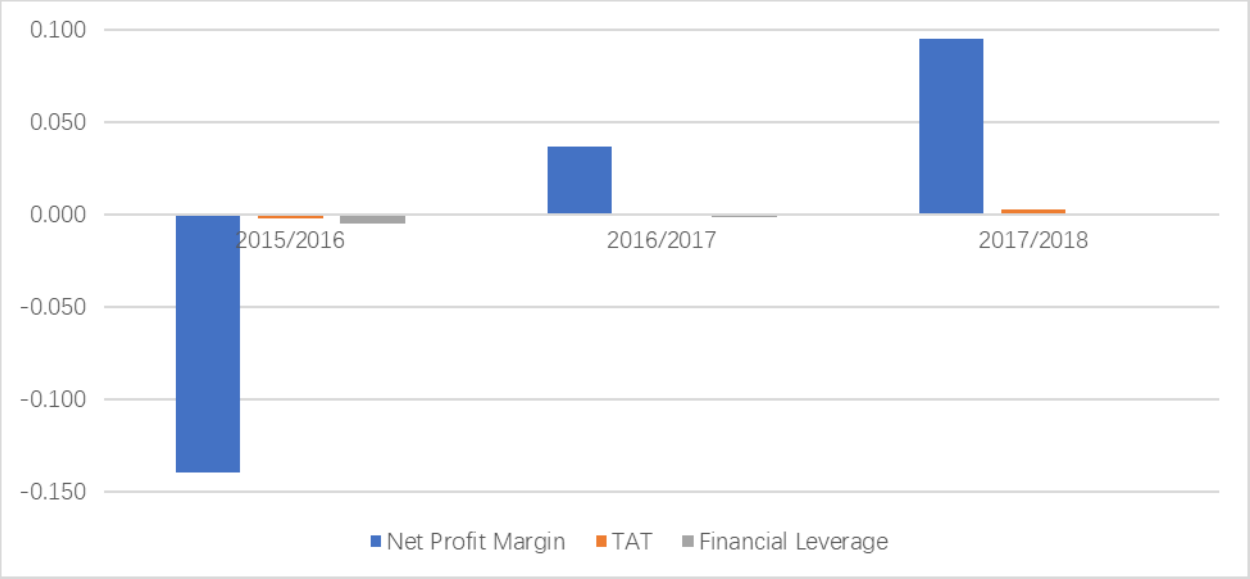
For further analysis, we also make a table focus on absolute change of pyramidal decomposition of ROE. Table 4.16 and Chart 4.10 is shown as follows.

Table 4.16 Absolute change of pyramidal decomposition of ROE from 2015-2018

	2015/2016	2016/2017	2017/2018
Net profit margin	-0.140	0.037	0.095
Assets turnover	-0.002	-0.0011	0.003
Financial Leverage	-0.005	-0.0014	0.0003
ROE	-0.147	0.034	0.098

Source: Results calculated based on Annual report

Chart 4.10 Absolute change of pyramidal decomposition of ROE from 2015-2018



Source: Results calculated based on Annual report

From the Table 4.15 and Chart 4.10, we can see that from 2015 to 2016, the net profit margin is most influencing factor affect the ROE. The assets turnover and financial leverage are both negative, and the net profit margin is much more negative, so ROE in 2015-2016 declined. In 2016-2017, the most influencing factor is still the net profit margin, although assets turnover and financial leverage are negative, the net profit margin is much higher, so the ROE in this period rises. Finally, from 2017-2018, the most influencing factor is net profit margin again, and all the factor are positive again, so the ROE keeps rising.

5. Conclusion

In this Bachelor Thesis, we analyzed the financial status of Vodafone Group Plc from 2015 to 2018. Vodafone is a multinational mobile phone operator and is one of the largest mobile communication network companies in the world currently. We use several methods of financial analysis such as common-size analysis, financial ratio analysis and Dupont analysis to analysis the financial status of the company these years.

Firstly, when we use common size analysis, by vertical analysis, we find that the structure of assets is imbalanced, the proportion of long-term assets is much higher than the proportion of current assets, which shows, the company may not have enough current assets to fund ongoing operations and pay current expenses. In the current assets, cash and short-term investments plays an important role, which means the company can be converted into cash immediately and it guarantees the liquidity of the company. As for the liabilities and equity, the company perform well in control these two important aspects, holding them in a same level and keeping stably from 2015-2018. By horizontal analysis, we compare financial items to each other every two years, calculating the absolute change and find that, the company suffered a big loss in 2016. After searching on line, we make it clear that the company wrote down the value of its Indian unit by 3.7bn euros after a major price war broke out in 2015, which also leads to the loss of other aspects of the company, but later in 2017, the company started to be on the right track.

Next, we analysis the status of the company by financial ratio analysis. Specifically, we use the four kinds of financial ratios analysis, profitability ratio analysis, liquidity ratio analysis, solvency ratio analysis and activity ratio analysis and compare information contained in its financial statements to gain insight into a company's liquidity, operational efficiency and profitability. The OPM, NPM, ROA, ROE of the company are almost in the same trend, they all fall in 2016, and later keep increase. It is mainly owed to the loss in India, which truly affect the company seriously. After that, we analysis the liquidity of the company, find that all the liquidity ratios are lower than the average level, which shows the company may not perform well in handling the problem in liquidity, and they should attach importance to this issue. Moreover, we also analysis its solvency ability. The debt-to-equity ratio increased from 80% to 120% in the period, which is a little higher, especially investors usually prefer low debt-to-equity ratios because their interests are better

protected in the event of a business decline. However, Vodafone has a good performance in interest coverage, which may be the good news. Finally, we conduct activity ratio analysis to Vodafone, we calculate the average collection period(ACP), accounts receivable turnover(ART), and total assets turnover(TAT) of the company, ACP and ART are below standard, which shows that the company may have a poor collection process, bad credit policies, or customers that are not financially viable or creditworthy. As for TAT, the trend is stable around 0.3, which is too low for the company, and it indicates it is not efficiently using its assets to generate sales.

Finally, we use the DuPont analysis, NPM has always influenced ROE mostly. The biggest reason for ROE to recover from 2016 to 2017 is also caused by NPM, which is from negative to the positive. In other words, for Vodafone, the most important thing is still to regain market share and increase operating income.

In short, Vodafone Group Plc is bad in profitability and liquidity, seems good in solvency and activity, and the company should focus on its net profit margin, the most influencing factor in these years.

In general, as one of the largest mobile communication network companies in the world currently, Vodafone has its own strength, however, in communication such a sharp market, not matter how Vodafone expand its market or carry out technological innovation, the company need become better and more competitive in the future.

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List of Abbreviations

ACP - Average collection period

ART - Account receivable turnover

COGS - Cost of goods sold

EBIT - Earning before interest and taxes

EBT - Earning before taxes

EAT - Earning after taxes

GPM - Gross profit margin

IT - Inventory turnover

NPM - Net profit margin

OPM - Operating profit margin

ROA - Return on assets

ROE - Return on equity

TAT - Total assets turnover

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Ostrava dated... 10.5.2019

Luojing Wei 魏洛京

Student's name and surname

List of Annexes

Annexes 1: Balance sheet of Vodafone Group Plc from 2015-2018

Period Ending:	2018 31/03	2017 31/03	2016 31/03	2015 31/03
Total Current Assets	24131	25542	31938	27457
Cash and Short Term Investments	13469	14955	18259	14854
Cash	2197	1856	2196	-
Cash & Equivalents	2477	6979	7311	9521
Short Term Investments	8795	6120	8752	5333
Total Receivables, Net	8749	8204	10619	11936
Accounts Receivables - Trade, Net	7224	6811	7791	11141
Total Inventory	581	576	716	667
Prepaid Expenses	1152	1197	1315	-
Other Current Assets, Total	180	610	1029	-
Total Assets	145611	154684	169107	169579
Property/Plant/Equipment, Total - Net	28325	30204	35515	36806
Property/Plant/Equipment, Total - Gross	70757	70470	76879	-
Accumulated Depreciation, Total	-42432	-40266	-41364	-
Goodwill, Net	26734	26808	28238	30524
Intangibles, Net	16523	19412	30326	28989
Long Term Investments	5742	6597	5110	5849
Note Receivable - Long Term	4026	4569	5793	6729
Other Long Term Assets, Total	40130	41552	32187	33225
Other Assets, Total	-	-	-	-
Total Current Liabilities	39024	42389	42235	39979
Accounts Payable	6212	6226	7487	20627
Payable/Accrued	-	-	-	-
Accrued Expenses	6756	6944	8931	-
Notes Payable/Short Term Debt	2712	3648	9364	-
Current Port. of LT Debt/Capital Leases	4636	3771	5422	17463
Other Current liabilities, Total	18708	21800	11031	1889
Total Liabilities	77971	82484	85782	78069
Total Long Term Debt	32630	34218	36792	31039
Long Term Debt	32630	34218	36792	31039
Capital Lease Obligations	-	-	-	-
Total Debt	39978	41637	51578	48502
Deferred Income Tax	644	535	564	824
Minority Interest	967	1519	1811	2198
Other Liabilities, Total	4706	3823	4380	4029

Total Equity	67640	72200	83325	91510
Redeemable Preferred Stock, Total	-	-	-	-
Preferred Stock - Non Redeemable, Net	-	-	-	-
Common Stock, Total	4796	4796	4796	5246
Additional Paid-In Capital	150197	151808	151694	161801
Retained Earnings (Accumulated Deficit)	-106695	-105851	-95683	-85882
Treasury Stock - Common	-8463	-8610	-8777	-9747
ESOP Debt Guarantee	-	-	-	-
Unrealized Gain (Loss)	-	-	-	-
Other Equity, Total	27805	30057	31295	20092
Total Liabilities & Shareholders' Equity	145611	154684	169107	169579
Total Common Shares Outstanding	26675.77	26622.08	26558.57	26512.04
Total Preferred Shares Outstanding	-	-	-	-

* In Millions of EUR (except for per share items)

Annexes 2: Income statement of Vodafone Group Plc from 2015-2018

Period Ending:	2018 31/03	2017 31/03	2016 31/03	2015 31/03
Total Revenue	46571	47631	49810	48385
Revenue	46571	47631	49810	48385
Other Revenue, Total	-	-	-	-
Cost of Revenue, Total	32771	34576	36713	35073
Gross Profit	13800	13055	13097	13312
Total Operating Expenses	42272	43906	48490	46312
Selling/General/Admin. Expenses, Total	9655	10429	10982	11015
Research & Development	-	-	-	-
Depreciation / Amortization	-	-	-	-
Interest Expense (Income) - Net Operating	-21	-174	-60	78
Unusual Expense (Income)	-	-1275	569	-
Other Operating Expenses, Total	-133	350	286	146
Operating Income	4299	3725	1320	2073
Interest Income (Expense), Net Non-Operating	-400	-885	-915	-305
Gain (Loss) on Sale of Assets	-	-	-	-
Other, Net	-21	-48	-595	-34
Net Income Before Taxes	3878	2792	-190	1734
Provision for Income Taxes	-879	4764	4937	-6071
Net Income After Taxes	4757	-1972	-5127	7805
Minority Interest	-349	-218	-283	-198
Equity In Affiliates	-	-	-	-
U.S GAAP Adjustment	-	-	-	-
Net Income Before Extraordinary Items	4408	-2190	-5410	7607
Total Extraordinary Items	-1969	-4107	5	-328
Net Income	2439	-6297	-5405	7279
Total Adjustments to Net Income	-	-	-	-
Income Available to Common Excluding Extraordinary Items	4408	-2190	-5410	7607
Dilution Adjustment	-	-	-	-
Diluted Net Income	2439	-6297	-5405	7279
Diluted Weighted Average Shares	27857	27971	26692	26629
Diluted EPS Excluding Extraordinary Items	0.16	-0.08	-0.2	0.29
DPS - Common Stock Primary Issue	0.15	0.15	0.14	0.15
Diluted Normalized EPS	0.16	-0.1	-0.18	0.29

* In Millions of EUR (except for per share items)

Annexes 3: Cash flow statement of Vodafone Group Plc from 2015-2018

Period Ending:	2018 31/03	2017 31/03	2016 31/03	2015 31/03
Period Length:	12 Months	12 Months	12 Months	12 Months
Cash From Operating Activities	13600	14223	14336	12668
Depreciation/Depletion	10409	11086	11697	11108
Amortization	-	-	-	-
Deferred Taxes	-	-	-	-
Non-Cash Items	2379	10025	9064	-3823
Cash Receipts	-	-	-	-
Cash Payments	-	-	-	-
Cash Taxes Paid	1228	761	807	533
Cash Interest Paid	991	1264	1324	1556
Changes in Working Capital	-1976	-809	-1303	-2094
Cash From Investing Activities	-9841	-8423	-13871	-13234
Capital Expenditures	-8163	-8861	-13883	-10137
Other Investing Cash Flow Items, Total	-1678	438	12	-3097
Cash From Financing Activities	-7234	-9096	4082	-3162
Financing Cash Flow Items	-616	-4829	-597	-2997
Total Cash Dividends Paid	-3920	-3714	-4188	-3758
Issuance (Retirement) of Stock, Net	-1746	25	25	31
Issuance (Retirement) of Debt, Net	-952	-578	8842	3562
Foreign Exchange Effects	-433	-313	-1128	975
Net Change in Cash	-3908	-3609	3419	-2753